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## ABSTRACT

Issues involving love often arise in counseling, because love is so fundamental to the experience of our humanity. But theories of love and related assessments are only at a primitive stage of development. The present study explored the construct validity of scores on a popular measure of love styles, by examining relationships between love styles and scores on a measure of personality dysfunction. Data was collected from 144 graduate and undergraduate students who completed the Hendrick-Hendrick Love Attitudes Scale and the Millon Clinical Multiaxial Inventory-II. Results suggest that the Love Attitudes Scale used to score the subjects' perception of love style may be construct valid. Results also indicate that counselors must possess an understanding of love, if they are to facilitate the healthy functioning of their clients. Also included in this document are tables and appendices that display the results of the subjects scores of love style perception. Contains 28 references. (Author/SR)

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**LOVE STYLE PERCEPTIONS IN RELATION TO PERSONALITY FUNCTION:  
IMPLICATIONS FOR COUNSELING AND ASSESSMENT**

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**RUNNING HEAD: Love Styles**

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**Paper presented at the annual meeting of the Mid-South  
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Andrea Rotzein, and Steve Sivo in collecting these data.**

Abstract

Issues involving love often arise in counseling, because love is so fundamental to the experience of our humanity. But theories of love and related assessments are only at a primitive stage of development. The present study explored the construct validity of scores on a popular measure of love styles, by examining relationships between love styles and scores on a measure of personality dysfunction.

Love is among the most fundamental aspects of the experience of being human, and thus frequently becomes an issue during counseling. Freud (1924) himself decades ago argued that, "A strong ego is protection against disease, but in the last resort we must begin to love in order that we may not fall ill, and we must fall ill if, in consequence of frustration, we cannot love" (p. 42). Similarly, Sternberg and Grajek (1984) noted that

Love can be among the most intense of human emotions, and is certainly one of the most sought after. People have been known to lie, cheat, steal, and even kill in its name, yet no one knows quite what it is. (p. 320)

The nature of love also interests persons other than academics, counselors, and counselors' clients, if the popular press is any indication (cf. "Finding Out", 1992; Gray, 1993).

Unfortunately, previous empirical research has provided counselors with little empirical basis for either understanding or assessing love phenomena, because historically researchers have presumed that love is too mysterious and too intangible for scientific study (Wrightsman & Deaux, 1981). However, more recently love has again become respectable as an area of study (C. Hendrick & S. Hendrick, 1986). Work by Rubin (1984) and by Tennov (1979) illustrates efforts to develop science in this area of inquiry.

Two distinct traditions have emerged in contemporary research regarding love phenomena, as summarized by Thompson and Borrello

(1992a). The first series of studies is inductive and includes attempts to generate new theory about the nature of love. The second series of studies was of interest in the present inquiry; this series involves the deductively-grounded work (Borrello & Thompson, 1990a, 1990b; C. Hendrick & S. Hendrick, 1989; S. Hendrick & C. Hendrick, 1987a, 1987b; Murthy, Rotzein & Vacha-Haase, in press; Rotzien, Vacha-Haase, Murthy, Davenport, & Thompson, 1994; Thompson & Borrello, 1987, 1992b) that invokes a theoretical typology of love styles. These studies have employed one of the versions of the Love Attitudes Scale developed by the Hendricks.

The Hendrick-Hendrick assessment measures attitudes regarding each of the six love styles conceptualized by Lee (1973/1976). Lee's theory posits three primary love styles: (a) **eros**, which is romantic or passionate love, (b) **ludus**, which is game playing love, and (c) **storge**, which is friendship love. Lee suggested that three secondary styles are formed as compounds of the primary styles, but still have their own unique properties and characters: (d) **mania**, which is a compound of ludus and eros, (e) **pragma**, which is a compound of storge and ludus, and (f) **agape**, which is a compound of eros and storge.

One important counseling-related controversy involves whether lovers can be so enmeshed or co-dependent that their love is dysfunctional (cf. Thompson & Borrello, 1987). The relationships between love styles and personality dysfunction also warrant exploration, for example, to test Freud's theoretical proposition

that dysfunctional personalities do not love or love dysfunctionally.

In addition to providing insight regarding love phenomena, studies of these relationships also shed light on the construct validity of scores from the Hendrick-Hendrick assessment. Of course, studying substantive phenomena and the measurement integrity of assessment scores are mutually reinforcing, because "theory building and construct measurement are [invariably] joint bootstrap operations" (C. Hendrick & S. Hendrick, 1986, p. 393).

Method

Subjects

In the present study we used data provided by 144 graduate and undergraduate students enrolled at a large university. The sample was predominantly white (90.3%). There were more women (80.6%) than men in the sample. The mean age was 21.24 (SD=3.59).

We considered our sample size to be somewhat small, but sufficient for a preliminary investigation of relationships between perceptions of love styles and personality dysfunction scores. One consideration in selecting the sample was cost. The personality assessment we employed was both relatively time-consuming and expensive to purchase and score. It was our view that interesting results in our initial study might then warrant additional resources being expended in related future work.

Instruments

The Hendrick-Hendrick assessment (C. Hendrick & S. Hendrick, 1990) measures attitudes regarding each of the six love styles

conceptualized by Lee (1973/1976). Specifically, the instrument evaluates agreement/disagreement with seven items measuring each love style, using a 1 to 7 Likert-scale format. For example, one Ludus item asserts, "I try to keep my lover a little uncertain about my commitment to him/her." Total scale scores are then computed for each style by summing responses to each of the seven items on a given scale. The six scores on this measure constituted one variable set in our study.

Personality function was measured using the Millon Clinical Multiaxial Inventory-II (Millon, 1990). This widely-used and respected instrument yields scores on each of 25 clinical scales (e.g., dependent, schizoid, borderline, narcissistic, bipolar). The measure also includes scales that can be used to detect invalid protocols. The 144 subjects employed in the present analysis all provided usable data, according to protocol validity criteria presented within the manual. Scores of an additional four subjects ( $n = 148 - 4 = 144$ ) had already been previously excluded for failure to meet these criteria.

#### Results

We conducted two analyses in our exploratory examinations of relationships between personality disorder scores and love-styles perception scores. First, we examined the bivariate product-moment correlations coefficients between perceptions of the six love styles and scores on the 25 MCMI-II scales. These coefficients are reported in Table 1.

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INSERT TABLE 1 ABOUT HERE.

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We also conducted multiple regression analyses using the 25 MCMII scores to predict scores on perceptions of the six love styles. We declined to succumb to the temptation to conduct stepwise regression analyses, arising from the fact that the number of predictor variables was 25, because the deleterious, evil effects of stepwise analyses are now so well documented (Snyder, 1991; Thompson, 1989, 1995), and we knew better.

Instead, we conducted all-possible-subsets analyses to determine the  $R^2$  for each possible combination of the variables for all possible sizes of predictor variable sets (i.e., 1, 2, 3, ...25). Figure 1 presents a line graph of the largest  $R^2$  values for each of the 25 predictor-variable set-sizes when predicting each of the six love styles.

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**INSERT FIGURE 1 ABOUT HERE.**

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Since our primary interest was in generally describing the most noteworthy relationships, we decided a priori to conduct and report complete regression analyses for each of the six love styles only for the best variable set of the size, four predictor variables. The beta weights, structure coefficients (Thompson & Borrello, 1985), and  $R^2$  values for these six regression analyses are presented in Table 2.

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**INSERT TABLE 2 ABOUT HERE.**

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**Discussion**

The analyses reported in the figures and the tables indicate

that selected personality dysfunction scores have what Cohen (1988) would term moderate relationships with perceptions of the six love styles. For example, as reported in Table 1, higher dependent personality scores were inversely related ( $r=-.30$ ) with higher scores on by Ludus--i.e., with disagreement that love involves the "game playing" somewhat typified by the film, "Dangerous Liaisons". This relationship is sensible, since ludic love may require a strong ego and a willingness to risk and remain detached in order to maintain some control during the "game."

Persons with higher dependent personality scores were more likely to agree, on the other hand, with statements describing Agape ( $r=+.32$ ), Pragma ( $r=+.19$ ), Eros ( $r=+.18$ ), and Storge ( $r=+.18$ ). In other words, more dependent personalities are more favorably disposed to these love styles.

As reported in Figure 1, scores on the Ludus and Mania love styles were best predicted by the personality dysfunction scores, while Storge (friendship-based love) was least predicted by the MCMI-II scores. The optimal predictor variable set of size four predicted between 14.5 and 24.1 percent of the variance in love-style scores, as reported in Table 2.

As reported in Table 1, persons who agreed more with the precepts of Ludus were less dependent ( $r=-.30$ ), but had higher scores on the alcohol dependence ( $r=+.36$ ), borderline ( $r=+.35$ ), disclosure ( $r=+.32$ ), debasement ( $r=+.30$ ), antisocial ( $r=+.28$ ), thought disorder ( $r=+.26$ ), depression ( $r=+.26$ ), and passive/aggressive ( $r=+.25$ ) scales. Persons who agreed more with the

precepts of Mania had higher scores on the borderline ( $r=+.38$ ), depression ( $r=+.34$ ), disclosure ( $r=+.34$ ), debasement ( $r=+.33$ ), self-defeating ( $r=+.32$ ), and somatoform ( $r=+.30$ ) scales.

Persons who agreed more with the precepts of Agape had higher scores on the dependence ( $r=+.32$ ) and compulsive ( $r=+.25$ ) scales. Persons who agreed more with the precepts of Pragma had higher scores on the thought disorder ( $r=+.22$ ) and delusional ( $r=+.20$ ) scales. Persons who agreed more with the precepts of Storge had higher scores on the desirability ( $r=+.26$ ) and compulsive ( $r=+.24$ ) scales, but lower scores on the debasement ( $r=-.22$ ) and depression ( $r=-.22$ ) scales. Persons who agreed more with the precepts of Eros had higher scores on the compulsive ( $r=+.20$ ) scale, but lower scores on the drug dependence ( $r=-.25$ ), antisocial ( $r=-.21$ ), debasement ( $r=-.20$ ) and depression ( $r=-.20$ ) scales.

The Table 2 results are especially useful for evaluating whether bivariate relationships are directly interpretable. Because so few of the tabled results indicate the presence of strong suppressor variable effects (near-zero structure coefficients or  $\pm$  of the predictor with a love style, yet a large non-zero beta weight), the relationships between the personality disorder scores and the agreement with love styles seem not to be moderated by suppressor-variable dynamics.

It is completely sensible that Ludus and Mania were most predictable from the personality disorder scores, as reported in Figure 1 and Table 2. Ludus would not be viewed by most therapists as the healthiest form of love (although Ludus may create an

invigorating undercurrent in relationships based primarily on other love styles). And Mania involves elements of obsessive thought and enmeshment that can represent love taken to a dysfunctional limit. Eros and Storge, at the other extreme, are primarily sexual and friendship-based loves, respectively, and may be better predicted by more normal variations within personality.

It is also sensible that some of the more serious clinical personality patterns and syndromes (e.g., schizoid, sadistic, histrionic, narcissistic, bipolar) have essentially no relationships with agreement/disagreement regarding any of the six love styles, as reported in Table 1. Severely disordered personality function may render irrelevant any capacity to love or any immediate concerns about love.

In summary, the present results provide further corroboration supporting a conclusion that scores from the Love Attitudes Scale may be construct valid. One implication of the results is that counselors may wish to use this assessment with clients to create a framework to explore issues involving love relationships. Of course, as with any assessment used to facilitate intervention, the primary utility of the assessment involves the framework itself and the discussion the framework facilitates, rather than in scores per se. And it must also be remembered that too little is known at this point about love to vest complete confidence in scores from this (Rotzein et al., 1994) or any similar assessment.

The present study provides yet one more set of insights regarding the nature and dynamics of love. Understanding love is

important if counselors and others are to facilitate the healthy functioning of their clients, as noted earlier. But as S. Hendrick and C. Hendrick (1992, p. 87) noted, "...it is certainly wisest in this relatively early stage of love research to keep an open theoretical mind when considering the complex phenomenon of love."

References

- Borrello, G.M., & Thompson, B. (1990a). An hierarchical analysis of the Hendrick-Hendrick measure of Lee's typology of love. Journal of Social Behavior and Personality, 3, 327-342.
- Borrello, G.M., & Thompson, B. (1990b). A note regarding the validity of Lee's typology of love. Journal of Psychology, 124(6), 639-644.
- Cohen, J. (1988). Statistical power analysis (2nd ed.). Hillsdale, NJ: Erlbaum.
- Finding out the meaning of true love. (1992, December 22). USA Today, Section D, p. 1.
- Freud, S. (1924). On narcissism. In J. Rivier & J. Strachy (Eds.), Collected papers of Sigmund Freud. New York: International Psychoanalytic Press.
- Gray, P. (1993, February 15). What is love? [Cover story]. Time, 141(7), 46-49.
- Hendrick, C., & Hendrick, S. (1986). A theory and method of love. Journal of Personality and Social Psychology, 50, 392-402.
- Hendrick, C., & Hendrick, S. (1989). Research on love: Does it measure up? Journal of Personality and Social Psychology, 56, 784-794.
- Hendrick, C., & Hendrick, S.S. (1990). A relationship-specific version of the Love Attitudes Scale. Journal of Social Behavior and Personality, 5, 239-254.
- Hendrick, S.S., & Hendrick, C. (1987a). Love and sex attitudes: A close relationship. In W.H. Jones & D. Perlman (Eds.), Advances

in personal relationships (Vol. 1, pp. 141-169). Greenwich, CT:  
JAI Press.

Hendrick, S.S., & Hendrick, C. (1987b). Love and sexual attitudes,  
self-disclosure and sensation seeking. Journal of Social and  
Personal Relationships, 4, 281-297.

Hendrick, S.S., & Hendrick, C. (1992). Romantic love. Newbury Park,  
CA: SAGE.

Lee, J. A. (1973). The colors of love: An exploration of the ways  
of loving. Don Mills, Ontario: New Press. (Popular Edition,  
1976)

Millon, T. (1990). The Millon Multiaxial Inventory-II. Minneapolis:  
National Computer Systems.

Murthy, K., Rotzien, A., & Vacha-Haase, T. (in press). Second-order  
structure underlying the Hendrick-Hendrick Love Attitudes Scale.  
Educational and Psychological Measurement.

Rotzien, A., Vacha-Haase, T., Murthy, K., Davenport, D., &  
Thompson, B. (1994). A confirmatory factor analysis of the  
Hendrick-Hendrick Love Attitudes Scale: We may not yet have an  
acceptable model. Structural Equation Modeling: A  
Multidisciplinary Journal, 1(4), 360-374.

Rubin, Z. (1984). Toward a science of relationships. Contemporary  
Psychology, 29, 856-858.

Snyder, P. (1991). Three reasons why stepwise regression methods  
should not be used by researchers. In B. Thompson (Ed.), (1991).  
Advances in educational research: Substantive findings,  
methodological developments (Vol. 1, pp. 99-105). Greenwich, CT:

- JAI Press. (International Book Sellers Number: 1-55938-316-X)
- Sternberg, R. J., & Grajek, S. (1984). The nature of love. Journal of Personality and Social Psychology, 47, 312-329.
- Tennov, D. (1979). Love and limerance: The experience of being in love. New York: Stein and Day.
- Thompson, B. (1989). Why won't stepwise methods die?. Measurement and Evaluation in Counseling and Development, 21(4), 146-148.
- Thompson, B. (1995). Stepwise regression and stepwise discriminant analysis need not apply here: A guidelines editorial. Educational and Psychological Measurement, 55, 525-534.
- Thompson, B., & Borrello, G.M. (1985). The importance of structure coefficients in regression research. Educational and Psychological Measurement, 45, 203-209.
- Thompson, B., & Borrello, G. (1987). Concurrent validity of a love relationships scale. Educational and Psychological Measurement, 47, 985-995.
- Thompson, B., & Borrello, G.M. (1990, November). Measuring second-order factors using confirmatory methods: A case study example with the Hendrick-Hendrick love instrument. Paper presented at the annual meeting of the Mid-South Educational Research Association, New Orleans. (ERIC Document Reproduction Service No. ED 325 527)
- Thompson, B., & Borrello, G. (1992a). Different views of love: Deductive and inductive lines of inquiry. Current Directions in Psychological Science, 1(5), 154-156.
- Thompson, B., & Borrello, G.M. (1992b). Measuring second-order

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factors using confirmatory methods: An illustration with the Hendrick-Hendrick love instrument. Educational and Psychological Measurement, 52, 69-77.

Wrightsman, L. S., & Deaux, K. (1981). Social psychology in the 80s. Monterey, CA: Brooks/Cole.

**Table 1**  
**Correlations of 25 MCMI-II Scores**  
**with Scores on Preferences for the Six Love Styles**

<b>MCMI-II Variable</b>	<b>Love Style</b>					
	<b>Ludus</b>	<b>Mania</b>	<b>Agape</b>	<b>Pragma</b>	<b>Storage</b>	<b>Eros</b>
Dependent	-.3045**	+.1340	+.3230**	+.1932*	+.1796*	+.1819*
Debasement	+.3000**	+.3295**	+.0838	-.0536	-.2250**	-.2056*
Major Depress.	+.2590**	+.3425**	+.0656	-.1407	-.2192**	-.2053*
Compulsive	-.1951*	-.1181	+.2486**	+.1770*	+.2435**	+.2052*
Al. Dependent	+.3590**	+.2315**	-.0138	-.0061	-.1666*	-.1747*
Disclosure	+.3227**	+.3418**	+.1640*	+.0732	-.0548	-.1178
Borderline	+.3529**	+.3819**	+.0305	-.0104	-.1631	-.1087
Passive Agg.	+.2522**	+.2779**	+.0044	-.0468	-.1425	-.1582
Desirability	-.1170	-.0350	+.2087*	+.1295	+.2647**	+.1878*
Drug Dependent	+.2409**	+.1320	-.0595	-.0187	-.0500	-.2510**
Thought Disor.	+.2579**	+.1195	+.0723	+.2177**	+.0149	-.0937
Self-defeating	+.1064	+.3195**	+.1905*	+.0542	-.0164	-.0230
Anitsocial	+.2767**	+.0794	-.1404	-.0700	-.0885	-.2093*
Avoidant	+.1960*	+.2356**	+.0834	-.0542	-.1342	-.1454
Dysthymic	+.1423	+.1702*	-.0013	-.0850	-.1922*	-.1666*
Somatoform	+.0056	+.3018**	+.1436	+.1003	-.0214	+.0635
Paranoid	+.2252**	+.0789	+.1216	+.1502	+.0717	-.0050
Anxious	+.1103	+.2029*	+.0463	+.0031	-.1290	-.1538
Delusional	+.1286	+.0198	+.1137	+.2018*	+.0856	-.0370
Schizotypal	+.1215	+.1841*	+.1610	+.0883	-.1150	-.0294
Schizoid	-.0869	+.0098	+.1500	-.0414	-.0278	-.1195
Agg. Sadistic	+.1471	+.1358	-.0194	+.0276	-.0598	-.1249
Histrionic	+.0732	+.1398	+.0289	+.1181	+.1058	+.0997
Narcissistic	+.0752	-.0388	-.0493	+.0876	+.0858	-.0262
Bipolar/Manic	-.0385	+.0642	-.0706	+.0679	+.0354	-.0042

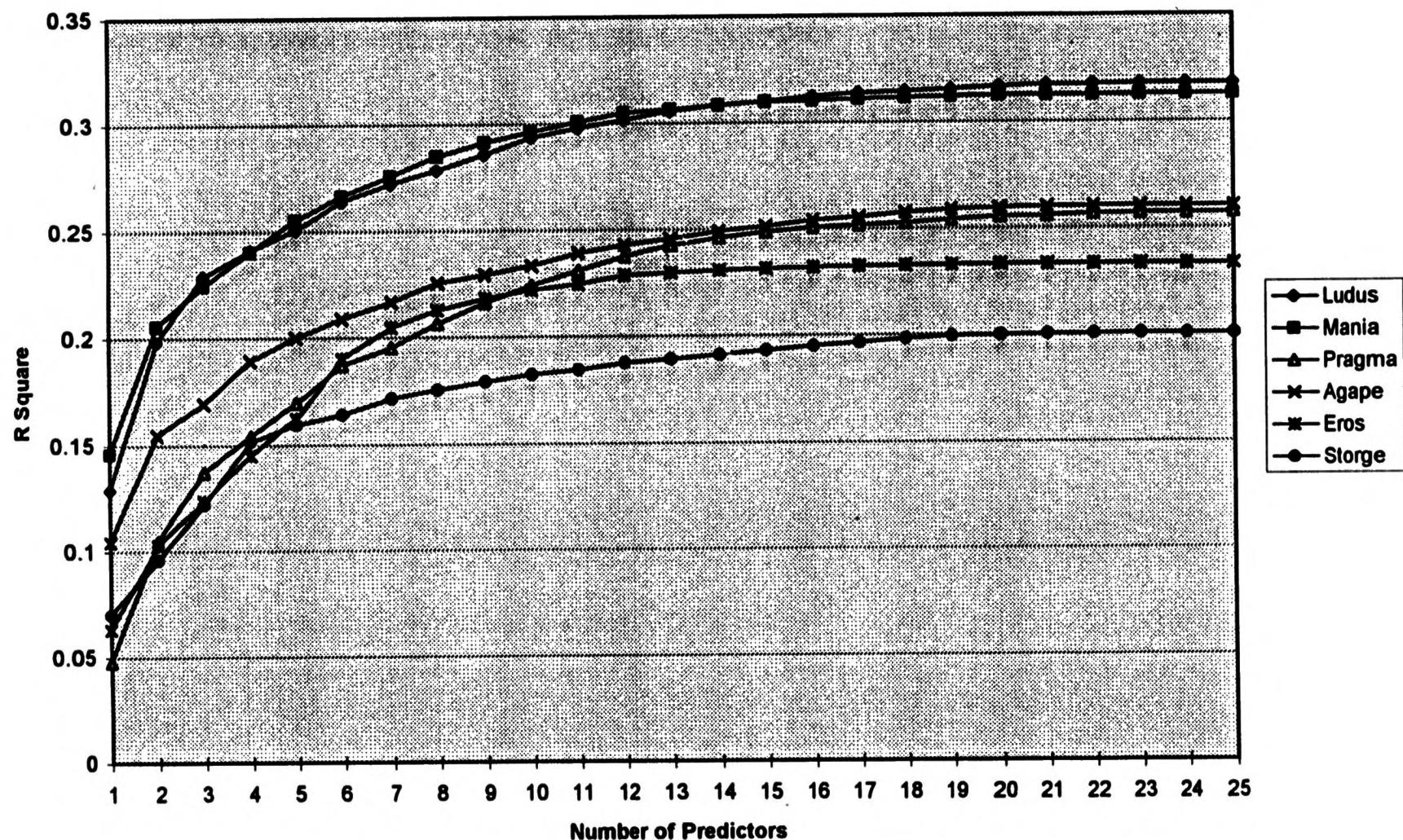
\* p < .05      \*\* p < .01

**Table 2**  
**Beta Weights, Structure Coefficients, and R<sup>2</sup> for Regression Models**  
**Predicting the Four Love Style Preferences with the Optimal Four MCMI-II Scores**

MCMI-II Variable/ Statistic	Love Style											
	Ludus		Mania		Agape		Pragma		Storage		Eros	
	Beta	Structure	Beta	Structure	Beta	Structure	Beta	Structure	Beta	Structure	Beta	Structure
Dependent	-.30	-.62			.29	.74	.23	.49	.25	.46	.19	.48
Compulsive					.21	.57			.20	.62	.17	.54
Schizoid	-.13	-.18									-.26	-.31
Dysthymic					-.16	.00			-.20	-.49		
Disclosure			.42	.70	.26	.38						
Drug Dependent											-.18	-.66
Avoidant	+.26	+.40										
Al. Dependent	+.24	+.73										
Narcissistic									.20	.22		
Thought Disor.							.24	.55				
Major Depress.							-.25	-.36				
Paranoid							.15	.38				
Somatoform			.27	.62								
Histrionic			.13	.28								
Delusional			-.26	.04								
R <sup>2</sup>	24.1%		24.0%		18.9%		15.4%		15.1%		14.5%	

Note. Examples of suppressor effects are bolded.

**All-Possible Subsets Analyses Using the 25 MCMI-II Scores as Predictors**



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**Appendix A**  
**Five Best Predictor Sets of Size 4**

Love Style	Number in Model	R-square	Variables in Model
<b>EROS</b>	4	0.14512590	ZOI DEPEND COMPUL DRUGDE
	4	0.14461893	ZOI DEPEND NARCIS DRUGDE
	4	0.14109824	DEPEND HISTRI COMPUL DRUGDE
	4	0.13979091	ZSCALE DEPEND BORDER DRUGDE
	4	0.13804164	DEPEND NARCIS ANXIET DRUGDE
<b>LUDUS</b>	4	0.24066332	ZOI AVOID DEPEND ALCOHO
	4	0.23938677	DEPEND NARCIS ALCOHO THOUGH
	4	0.23936289	AVOID DEPEND SOMATO ALCOHO
	4	0.23849837	XSCALE DEPEND NARCIS ALCOHO
	4	0.23714306	AVOID DEPEND ALCOHO THOUGH
<b>STORGE</b>	4	0.15134012	DEPEND NARCIS COMPUL DYSTHY
	4	0.13937348	DEPEND HISTRI COMPUL DYSTHY
	4	0.13909916	DEPEND NARCIS COMPUL ANXIET
	4	0.13853741	YSCALE DEPEND COMPUL DYSTHY
	4	0.13623254	ZSCALE DEPEND NARCIS COMPUL
<b>PRAGMA</b>	4	0.15414424	DEPEND PARANO THOUGH MAJDEP
	4	0.15221589	DEPEND HISTRI THOUGH MAJDEP
	4	0.15170702	DEPEND NARCIS THOUGH MAJDEP
	4	0.14951597	AVOID DEPEND THOUGH MAJDEP
	4	0.14792890	AVOID DEPEND DYSTHY THOUGH
<b>MANIA</b>	4	0.23996920	XSCALE HISTRI SOMATO DELUSI
	4	0.23819439	XSCALE SOMATO DYSTHY DELUSI
	4	0.23668494	XSCALE ANXIET SOMATO DELUSI
	4	0.23592771	XSCALE BORDER SOMATO DELUSI
	4	0.23551443	SEFDEF BORDER SOMATO DYSTHY
<b>AGAPE</b>	4	0.18919312	XSCALE DEPEND COMPUL DYSTHY
	4	0.18669355	XSCALE DEPEND HISTRI COMPUL
	4	0.18418000	DEPEND HISTRI COMPUL SCHIZT
	4	0.18268256	XSCALE DEPEND COMPUL ANXIET
	4	0.18148521	ZSCALE DEPEND HISTRI COMPUL

**Appendix B**  
**All-Possible-Subsets Analyses for Predictor Variable Set Sizes of  
 1 to 25 for Predictions of Preferences for Ludus**

Number in Model	R-square	Variables in Model
1	0.12889967	ALCOHO
1	0.12451418	BORDER
1	0.10411134	XSCALE
1	0.09274787	DEPEND
1	0.09001076	ZSCALE
1	0.07655284	ANTISO
1	0.06707314	MAJDEP
1	0.06649620	THOUGH
1	0.06361978	PASAGG
1	0.05804289	DRUGDE
1	0.05069871	PARANO
1	0.03842864	AVOID
1	0.03806774	COMPUL
1	0.02164043	AGGSAD
1	0.02025890	DYSTHY
1	0.01653372	DELUSI
1	0.01475999	SCHIZT
1	0.01368852	YSCALE
1	0.01217430	ANXIET
1	0.01132677	SEFDEF
1	0.00755734	ZOI
1	0.00565245	NARCIS
1	0.00536337	HISTRI
1	0.00148422	BIPOLA
1	0.00003135	SOMATO
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2	0.19805427	XSCALE DEPEND
2	0.19712539	DEPEND ALCOHO
2	0.19631199	ZSCALE DEPEND
2	0.18981869	DEPEND BORDER
2	0.17747586	AVOID DEPEND
2	0.17400832	DEPEND THOUGH
2	0.16777444	DEPEND MAJDEP
2	0.16461470	DEPEND SEFDEF
2	0.14468922	BORDER ALCOHO
2	0.14282757	ZOI ALCOHO
2	0.14122777	PARANO ALCOHO
2	0.14114831	ZOI BORDER
2	0.14075010	YSCALE ALCOHO
2	0.14052695	ANTISO ALCOHO
2	0.13934728	ANTISO BORDER
2	0.13872497	ALCOHO THOUGH
2	0.13788321	BIPOLA ALCOHO
2	0.13759553	ZSCALE ALCOHO
2	0.13648222	XSCALE ALCOHO
2	0.13608347	BORDER THOUGH
2	0.13566254	ZSCALE ZOI
2	0.13513342	DEPEND PASAGG
2	0.13495854	COMPUL ALCOHO
2	0.13492776	AVOID ALCOHO
2	0.13431454	ALCOHO MAJDEP
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3	0.22868576	AVOID DEPEND ALCOHO
3	0.22280407	XSCALE DEPEND NARCIS
3	0.22013930	ZSCALE DEPEND THOUGH
3	0.21873620	ZSCALE DEPEND ALCOHO
3	0.21811077	DEPEND ALCOHO THOUGH
3	0.21757197	DEPEND SEFDEF ALCOHO
3	0.21613335	XSCALE AVOID DEPEND
3	0.21599800	DEPEND NARCIS ALCOHO
3	0.21483635	XSCALE ZSCALE DEPEND
3	0.21370521	DEPEND BORDER THOUGH

3	0.21320852	XSCALE DEPEND ALCOHO
3	0.21087342	DEPEND BIPOLA ALCOHO
3	0.21034084	XSCALE DEPEND THOUGH
3	0.20962650	DEPEND ALCOHO MAJDEF
3	0.20872499	XSCALE DEPEND MAJDEF
3	0.20823739	DEPEND BORDER ALCOHO
3	0.20795735	AVOID DEPEND BORDER
3	0.20723721	ZSCALE ZOI DEPEND
3	0.20681039	AVOID DEPEND THOUGH
3	0.20662854	DEPEND THOUGH MAJDEF
3	0.20643043	ZSCALE DEPEND BORDER
3	0.20619343	XSCALE DEPEND SEFDEF
3	0.20602748	ZSCALE DEPEND HISTRI
3	0.20592076	XSCALE DEPEND SOMATO
3	0.20459775	ZSCALE DEPEND SEFDEF
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4	0.24666332	ZOI AVOID DEPEND ALCOHO
4	0.23938677	DEPEND NARCIS ALCOHO THOUGH
4	0.23936289	AVOID DEPEND SOMATO ALCOHO
4	0.23849837	XSCALE DEPEND NARCIS ALCOHO
4	0.23714306	AVOID DEPEND ALCOHO THOUGH
4	0.23619930	AVOID DEPEND NARCIS ALCOHO
4	0.23483910	XSCALE DEPEND NARCIS THOUGH
4	0.23452975	XSCALE ZOI DEPEND NARCIS
4	0.23344350	AVOID DEPEND PASAGG ALCOHO
4	0.23316990	ZSCALE ZOI DEPEND THOUGH
4	0.23250218	AVOID DEPEND BIPOLA ALCOHO
4	0.23228677	ZSCALE DEPEND ALCOHO THOUGH
4	0.23217137	AVOID DEPEND SCHIZT ALCOHO
4	0.23203091	XSCALE AVOID DEPEND ALCOHO
4	0.23197693	XSCALE DEPEND NARCIS SOMATO
4	0.23182553	AVOID DEPEND PARANO ALCOHO
4	0.23178795	DEPEND NARCIS SEFDEF ALCOHO
4	0.23141436	AVOID DEPEND HISTRI ALCOHO
4	0.23115683	XSCALE ZOI AVOID DEPEND
4	0.23114273	DEPEND SEFDEF ALCOHO THOUGH
4	0.23059150	AVOID DEPEND ALCOHO DELUSI
4	0.23041305	AVOID DEPEND SEFDEF ALCOHO
4	0.23031108	ZSCALE AVOID DEPEND ALCOHO
4	0.22962871	DEPEND BIPOLA ALCOHO THOUGH
4	0.22934257	YSCALE AVOID DEPEND ALCOHO
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5	0.25049075	ZOI AVOID DEPEND BIPOLA ALCOHO
5	0.25022544	ZOI AVOID DEPEND NARCIS ALCOHO
5	0.25003518	ZOI AVOID DEPEND ALCOHO THOUGH
5	0.24945072	ZOI AVOID DEPEND SOMATO ALCOHO
5	0.24878044	XSCALE ZOI DEPEND NARCIS THOUGH
5	0.24851212	XSCALE DEPEND NARCIS ALCOHO THOUGH
5	0.24828192	XSCALE ZOI DEPEND NARCIS ALCOHO
5	0.24807914	DEPEND NARCIS SEFDEF ALCOHO THOUGH
5	0.24805150	AVOID DEPEND NARCIS ALCOHO THOUGH
5	0.24763899	AVOID DEPEND HISTRI NARCIS ALCOHO
5	0.24761950	AVOID DEPEND SOMATO ALCOHO THOUGH
5	0.24748853	XSCALE ZOI AVOID DEPEND NARCIS
5	0.24746827	AVOID DEPEND PASAGG SOMATO ALCOHO
5	0.24738455	DEPEND NARCIS SOMATO ALCOHO THOUGH
5	0.24688733	AVOID DEPEND NARCIS SOMATO ALCOHO
5	0.24663031	ZOI DEPEND NARCIS ALCOHO THOUGH
5	0.24661731	ZOI AVOID DEPEND PASAGG ALCOHO
5	0.24659105	ZOI AVOID DEPEND COMPUL ALCOHO
5	0.24636359	DEPEND HISTRI NARCIS ALCOHO THOUGH
5	0.24566292	ZOI AVOID DEPEND PARANO ALCOHO
5	0.24543285	XSCALE DEPEND NARCIS SOMATO ALCOHO
5	0.24488862	XSCALE ZOI AVOID DEPEND ALCOHO
5	0.24475644	XSCALE DEPEND NARCIS SOMATO THOUGH
5	0.24464609	XSCALE DEPEND HISTRI NARCIS THOUGH
5	0.24463096	ZSCALE DEPEND HISTRI NARCIS THOUGH
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6	0.26377504	ZOI AVOID DEPEND NARCIS ALCOHO THOUGH

6 0.26170109 AVOID DEPEND HISTRI NARCIS ALCOHO THOUGH  
 6 0.26108683 XSCALE ZOI AVOID DEPEND NARCIS ALCOHO  
 6 0.26104882 ZOI AVOID DEPEND BIPOLA ALCOHO THOUGH  
 6 0.26071977 ZOI AVOID DEPEND NARCIS PARANO ALCOHO  
 6 0.26030134 XSCALE ZOI DEPEND NARCIS ALCOHO THOUGH  
 6 0.25955965 ZOI AVOID DEPEND SOMATO BIPOLA ALCOHO  
 6 0.25886134 ZOI AVOID DEPEND NARCIS SOMATO ALCOHO  
 6 0.25864982 ZOI AVOID DEPEND PASAGG SOMATO ALCOHO  
 6 0.25855949 ZOI AVOID DEPEND SOMATO ALCOHO THOUGH  
 6 0.25850049 AVOID DEPEND NARCIS SOMATO ALCOHO THOUGH  
 6 0.25758350 XSCALE ZOI AVOID DEPEND NARCIS THOUGH  
 6 0.25731108 ZOI AVOID DEPEND PASAGG ALCOHO THOUGH  
 6 0.25709090 AVOID DEPEND PASAGG SOMATO ALCOHO THOUGH  
 6 0.25708498 ZOI AVOID DEPEND NARCIS ALCOHO DELUSI  
 6 0.25693651 ZOI DEPEND NARCIS SEFDEF ALCOHO THOUGH  
 6 0.25668697 ZOI AVOID DEPEND NARCIS COMPUL ALCOHO  
 6 0.25644673 XSCALE ZOI AVOID DEPEND NARCIS SOMATO  
 6 0.25619194 XSCALE DEPEND NARCIS SOMATO ALCOHO THOUGH  
 6 0.25589751 XSCALE DEPEND HISTRI NARCIS ALCOHO THOUGH  
 6 0.25579706 XSCALE ZOI AVOID DEPEND NARCIS SCHIZ  
 6 0.25571236 XSCALE ZOI DEPEND NARCIS SOMATO THOUGH  
 6 0.25564469 ZSCALE ZOI DEPEND NARCIS ALCOHO THOUGH  
 6 0.25559009 AVOID DEPEND HISTRI NARCIS SOMATO ALCOHO  
 6 0.25553880 XSCALE DEPEND NARCIS SCHIZT ALCOHO THOUGH

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7 0.27206018 ZOI AVOID DEPEND NARCIS SOMATO ALCOHO THOUGH  
 7 0.26985008 ZOI AVOID DEPEND SOMATO BIPOLA ALCOHO THOUGH  
 7 0.26934642 ZOI AVOID DEPEND PASAGG SOMATO ALCOHO THOUGH  
 7 0.26930870 XSCALE ZOI AVOID DEPEND NARCIS ALCOHO THOUGH  
 7 0.26917122 AVOID DEPEND HISTRI NARCIS SOMATO ALCOHO THOUGH  
 7 0.26887926 ZOI AVOID DEPEND NARCIS PARANO ALCOHO THOUGH  
 7 0.26848582 XSCALE ZOI AVOID DEPEND NARCIS SCHIZT THOUGH  
 7 0.26831381 ZOI AVOID DEPEND NARCIS SCHIZT ALCOHO THOUGH  
 7 0.26814239 XSCALE ZOI AVOID DEPEND NARCIS SOMATO ALCOHO  
 7 0.26777194 XSCALE ZOI AVOID DEPEND NARCIS SCHIZT ALCOHO  
 7 0.26769551 ZOI AVOID DEPEND NARCIS COMPUL ALCOHO THOUGH  
 7 0.26759599 ZOI AVOID DEPEND SCHIZT BIPOLA ALCOHO THOUGH  
 7 0.26735088 ZOI AVOID DEPEND HISTRI NARCIS ALCOHO THOUGH  
 7 0.26688183 ZOI AVOID DEPEND NARCIS AGGSAD ALCOHO THOUGH  
 7 0.26657201 ZOI AVOID DEPEND NARCIS PASAGG ALCOHO THOUGH  
 7 0.26655510 XSCALE ZOI AVOID DEPEND NARCIS SOMATO THOUGH  
 7 0.26640479 XSCALE ZOI AVOID DEPEND PASAGG SOMATO ALCOHO  
 7 0.26640371 XSCALE ZOI AVOID DEPEND NARCIS PASAGG ALCOHO  
 7 0.26609404 AVOID DEPEND NARCIS SCHIZT SOMATO ALCOHO THOUGH  
 7 0.26602774 ZOI AVOID DEPEND NARCIS PARANO SOMATO ALCOHO  
 7 0.26594493 ZOI AVOID DEPEND NARCIS SCHIZT PARANO ALCOHO  
 7 0.26587006 ZOI AVOID DEPEND NARCIS BIPOLA ALCOHO THOUGH  
 7 0.26568051 XSCALE ZOI DEPEND NARCIS SOMATO ALCOHO THOUGH  
 7 0.26555742 AVOID DEPEND HISTRI NARCIS SCHIZT ALCOHO THOUGH  
 7 0.26501370 XSCALE ZOI AVOID DEPEND NARCIS SCHIZT SOMATO

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8 0.27825313 XSCALE ZOI AVOID DEPEND NARCIS SCHIZT ALCOHO THOUGH  
 8 0.27775784 XSCALE ZOI AVOID DEPEND NARCIS SCHIZT SOMATO THOUGH  
 8 0.27724224 ZOI AVOID DEPEND NARCIS SCHIZT SOMATO ALCOHO THOUGH  
 8 0.27723593 ZOI AVOID DEPEND NARCIS PASAGG SOMATO ALCOHO THOUGH  
 8 0.27722895 ZOI AVOID DEPEND SCHIZT SOMATO BIPOLA ALCOHO THOUGH  
 8 0.27650266 XSCALE ZOI AVOID DEPEND NARCIS SOMATO ALCOHO THOUGH  
 8 0.27635068 ZOI AVOID DEPEND NARCIS SCHIZT PARANO ALCOHO THOUGH  
 8 0.27616725 XSCALE ZOI AVOID DEPEND NARCIS PASAGG SOMATO ALCOHO  
 8 0.27613158 ZOI AVOID DEPEND PASAGG SOMATO BIPOLA ALCOHO THOUGH  
 8 0.27538414 ZOI AVOID DEPEND PASAGG SOMATO BIPOLA ALCOHO DRUGDE  
 8 0.27514769 XSCALE ZOI AVOID DEPEND NARCIS SCHIZT SOMATO ALCOHO  
 8 0.27486540 ZOI AVOID DEPEND NARCIS PARANO SOMATO ALCOHO THOUGH  
 8 0.27484783 ZOI AVOID DEPEND NARCIS COMPUL SOMATO ALCOHO THOUGH  
 8 0.27482312 ZOI AVOID DEPEND NARCIS SOMATO DYSTHY ALCOHO THOUGH  
 8 0.27461592 ZOI AVOID DEPEND NARCIS ANXET SOMATO ALCOHO THOUGH  
 8 0.27455934 ZOI AVOID DEPEND HISTRI NARCIS SOMATO ALCOHO THOUGH  
 8 0.27437117 ZOI AVOID DEPEND NARCIS SOMATO BIPOLA ALCOHO THOUGH  
 8 0.27420234 XSCALE ZOI AVOID DEPEND NARCIS PASAGG ALCOHO THOUGH